

# Cardiovascular Disease Programs for the Community

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THE COMMUNITY expects leadership from the health officer in solving its major health problems; these may be infectious diseases in one area or chronic diseases in another, or both in many areas. The growing problem of cardiovascular disease, which is now responsible for more deaths in the United States than all other diseases combined, should challenge the best efforts of every health officer to seek counter measures. In New York State during 1954, for instance, cardiovascular disease was given as the cause of more than half of all deaths (see table).

Ultimate death, of course, cannot be avoided, but premature death, unnecessary suffering, and disability can often be prevented. The First National Conference on Cardiovascular Diseases (1a) in 1950 brought out the need to apply existing knowledge of cardiovascular disease control; at the same time, it was recognized that continued research is of prime importance. Much is yet to be learned about effective measures for controlling cardiovascular disease; however, the considerable experience and new

knowledge that have accumulated indicate promising tangible activities.

More than 50 diseases are known to produce myocarditis as a major or associated complicating illness (2,3). These include rheumatic fever, diphtheria, rickettsial disease, syphilis, tuberculosis, meningococemia, leptospirosis, trichiniasis, tularemia, and brucellosis. Most of these diseases have been responding well to public health measures. Rheumatic fever, too, could be removed from its place as third most common cause of heart disease by the concerted effort of private and public health physicians. Effective use of present knowledge of prevention and the early treatment of streptococcal infections could make the disease a rarity.

Atherosclerosis and hypertension remain the greatest heart problems. But even with these, there is reason for optimism that research efforts will provide at least partial measures for control in the foreseeable future.

Since the scope of the cardiovascular disease problem is so broad, every health officer can find some area for positive action. How much is accomplished may depend more on the interest and activity he can stimulate within the local medical profession and in the community than on the size of his staff or budget. Physicians will support services that benefit the patient, if these services do not infringe on physician-patient relationships. By working with the physicians, the local heart association, community leaders, and representatives of community agencies, a thoughtful appraisal can be made of community needs and a program developed to meet these needs. Although measures to meet specific needs in cardiovascular

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disease are in themselves important, they should relate as well to other chronic diseases in the community.

Although no two communities are identical, there are several activities applicable in most communities. Some involve action on present knowledge; others would entail studies to add to our information (see outline). A review of some of these activities follows.

### Primary Prevention

Specific measures directed toward the prevention of infectious diseases, such as diphtheria, syphilis, and tuberculosis, should be applied at every opportunity. The drama of preventive measures may not match that of surgical correction of congenital anomalies, but the value of prevention is unquestionable and lasting. There are sound recommendations for the primary prevention of cardiovascular disease in the reports of the First National Conference on Cardiovascular Diseases (1*b*) and of the Chronic Illness Commission (4). Certain aspects are worthy of review here.

#### *Congenital Heart Disease*

Congenital heart disease is far from being a rare condition. Richards and associates (5) in a careful study of an unselected series of 6,053 births found 50 cases of congenital cardiovascular malformations, an incidence of 0.83 percent. Twenty-nine of the fifty cases survived 1 year, representing 0.5 percent of the total study group surviving that long. In some school surveys, congenital heart disease has been as prevalent as rheumatic heart disease (6, 7).

Of recognized public health importance is the relationship of maternal rubella infections during the first trimester of pregnancy to the development of anomalies in the fetus (8). The estimates of 100 percent risk (9) of anomalies from rubella occurring during the first 2 months of pregnancy appear to be too high, and a figure closer to 20 percent (10) is a more realistic estimate from prospective studies. Nevertheless, the gravity of the consequences has been considered by some to be justifiable reason for therapeutic abortion in women who contract rubella during the first 3 months of pregnancy (1*b*, 11).

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### Program Activities for Cardiovascular Disease

Prevention: primary and secondary  
Community research  
Education and information  
Detection programs  
Diagnostic services  
Ancillary services: nursing, nutrition, medical social, physical therapy, vocational guidance, laboratory  
Nursing homes, convalescent homes, home care  
Rehabilitation  
Evaluation

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The American Public Health Association (12) and the Committee on Immunization and Therapeutic Procedures for Acute Infectious Diseases of the American Academy of Pediatrics (13) are in agreement on basic recommendations regarding rubella and birth anomalies. Essentially they are: Girls in good health should not be protected from exposure to rubella before puberty since permanent immunity usually follows the disease. Women in the first 4 months of pregnancy should avoid exposure to rubella if possible. Gamma globulin should be administered to women who are exposed to rubella during the first 4 months of pregnancy to provide the possible protection afforded by the induced passive immunity.

The dosage of gamma globulin presently recommended by the New York State Department of Health for intramuscular administration is from 0.2 cc. per pound of body weight to a maximum dose of 20 cc., preferably containing material from two different lots (14). This is based on the finding that the titer of rubella antibodies may vary with different lots of pooled gamma globulin (15) and that the higher dosage should be more effective in preventing rubella.

Other viral diseases during the first trimester of pregnancy have been incriminated as causing fetal anomalies, but the relationship is not yet established. Herpes simplex during the first trimester had a suggestive but perhaps coincidental relationship to the development of the tetrad of Fallot in Richards' study (5). Mumps, measles, varicella, poliomyelitis, infec-

tious mononucleosis, influenza, herpes zoster, and virus pneumonia during the first trimester of pregnancy are mentioned as reported causes of fetal anomalies in collected cases of Kaye and associates (16). Dietary deficiencies in the mother during early pregnancy suggest an association with a higher incidence of fetal anomalies, but the relationship is difficult to prove (17). Prospective studies will be needed to establish the validity of these observations.

Experimental animal studies and accumulated clinical evidence reveal that congenital anomalies in the embryo and fetus can result from extensive pelvic irradiation (18-20). Current practice usually recognizes this potential danger and elective, prolonged X-ray studies are avoided during pregnancy. Russell and Russell (19) concluded from animal studies that roentgen dosages well within the range used in diagnostic fluoroscopy might cause subtle alterations in the fetus if exposure occurred at a critical time. They recommend that irradiation of the uterus in women of child-bearing age be restricted to the 2 weeks following the last menstrual cycle to preclude the possibility of irradiation after fertilization has taken place.

Even with its limitations, our current knowledge gives encouragement that other factors might be revealed as causative agents in congenital heart disease. The epidemiological approach toward determining such possible factors is a sound one.

### *Rheumatic Fever*

Present knowledge indicates that rheumatic fever has become a preventable disease. Several studies have shown that first attacks of rheumatic fever can be prevented when the initiating streptococcal infection is diagnosed and promptly treated with penicillin (21-23). For acute streptococcal infections, a single injection of 600,000 units of long-acting benzathine penicillin G is effective. Among 1,175 children with streptococcal infections treated with this regimen by Breese and Disney (23), no clinical rheumatic fever or acute glomerulonephritis was noted in the entire series. An attack rate of clinical rheumatic fever of perhaps 3 to 5 percent might have been expected without such treatment (24, 25). Any other dosage regimen

of penicillin is acceptable if it maintains bactericidal levels of the drug in the individual over a period of at least 8 to 10 days (26). Treatment of acute streptococcal infections with sulfadiazine has not been effective in preventing subsequent rheumatic fever (27). Sulfonamides are, however, of value as a daily prophylactic measure for known rheumatics in preventing streptococcal infections that might result in recurrence of rheumatic fever (26, 27).

A youngster who has a history of rheumatic fever may have as high as a 50 percent chance of developing a recurrence of rheumatic fever if he develops a new streptococcal infection (28). It appears that it would be advisable for persons with a history of rheumatic fever to be placed on a continuous prophylactic regimen for a period of at least 5 years from the last attack. In a report by Bland and Jones (29) on 1,000 patients with rheumatic fever and rheumatic heart disease followed for 20 years, the recurrence rate in the preprophylaxis era was approximately 1 in 5 per year during the first 5 years, 1 in 10 per year during the next 5 years, 1 in 20 during the third 5-year

**Deaths and death rates per 100,000 population, New York State, 1954**

| Cause  | Number   | Rate    |
|--|----------|---------|
| . All causes.....  | 159, 540 | 1011. 7 |
| Cardiovascular diseases.....   | 89, 275  | 566. 1  |
| Vascular lesions affecting the central nervous system.....               | 14, 036  | 89. 0   |
| Diseases of the heart.....   | 70, 615  | 447. 8  |
| Chronic rheumatic heart disease and rheumatic fever.....                 | 2, 472   | 15. 7   |
| Arteriosclerotic heart disease including coronary disease.....           | 53, 186  | 337. 3  |
| Nonrheumatic chronic endocarditis and other myocardial degeneration..... | 6, 479   | 41. 1   |
| Hypertension with heart disease.....                                     | 7, 932   | 50. 3   |
| Other diseases of the heart.....   | 546      | 3. 5    |
| Hypertension without mention of heart disease.....                       | 996      | 6. 3    |
| General arteriosclerosis.....  | 2, 740   | 17. 4   |
| Other diseases of circulatory system.....                                | 888      | 5. 6    |
| Tuberculosis.....  | 1, 829   | 11. 6   |
| Malignant neoplasms.....   | 29, 392  | 186. 4  |
| Accidents.....   | 6, 503   | 41. 2   |
| Poliomyelitis.....   | 99       | . 6     |
| All other causes.....  | 32, 442  | 205. 7  |

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interval, and 1 in 70 in the last 5-year interval. Acceptable methods of prophylaxis are oral sulfadiazine, 0.5 to 1.0 gram daily, or daily oral penicillin of 200,000 to 400,000 units, or a monthly intramuscular injection of 1.2 million units of benzathine penicillin G. Specific recommendations for dosage have been formulated by the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association (26). They form a sound medical basis for a community program for the prevention of rheumatic fever.

A practical problem in such community programs has been to maintain faithful adherence to the long-term schedule of prophylaxis. The health department is uniquely able to help the physician with this problem by providing a followup service, especially through public health nurses. In some communities the health department serves as the focal point for distributing the drugs ordered by physicians (30). A roster of patients can be kept, the regularity of refill of prescriptions can be noted, and lapses from treatment more readily detected and prevented. Other communities have found that the school can serve as a focal point for carrying out the physician's prescribed regimen. This has worked successfully in Cortland County, N. Y., where such a program has operated for the past 5 years. Success in preventing rheumatic fever will depend on the faithfulness with which long-term services are maintained. Recurrences of rheumatic fever should be reduced by at least 85 percent if an adequate regimen of sulfa or penicillin prophylaxis is followed (21, 31).

#### *Subacute Bacterial Endocarditis*

A serious complication of congenital, rheumatic, or other valvular heart disease is subacute bacterial endocarditis. This disease carried a fatality rate of almost 100 percent before the use of antibiotics. Now a cure rate of approximately 75 percent is possible with proper treatment (32), but irreparable damage to the heart valves proceeds unless the invading organisms are destroyed. This disease is almost certainly preventable when prophylactic doses of antibiotics are given to persons with congenital, rheumatic, or other valvular heart disease prior to and during any operative pro-

cedure that might produce bacteremia. Common surgical procedures which may result in subacute bacterial endocarditis in persons with valvular or congenital heart disease include dental extractions; surgery about the mouth, nose, and throat; genitourinary operations; and obstetrical deliveries. Published recommendations of the Council on Rheumatic Fever and Congenital Heart Disease are good guides to follow (26). The routine application of this knowledge by physicians and dentists pays full dividends. The methods of accomplishing this can be worked out with professional groups in the community.

#### *Coronary Artery Disease*

Coronary artery or atherosclerotic heart disease cannot be prevented as yet; however, there is evidence that it is not an unalterable process (33, 34). Katz (35) has reported that early lesions of experimental atherosclerosis in the chick and in the rat can be reversed by estrogen therapy. Stare and his co-workers (36) are currently studying whether dietary alterations will reverse experimental atherosclerosis induced in Cebus monkeys.

Keys and his co-workers (37) have contributed additional knowledge that lends encouragement for the future understanding of the mechanisms of atherosclerosis. Population groups such as our own, with an average diet containing 40 percent of the calories as fats, are said to have more coronary artery disease than do population groups such as the Japanese and Bantus whose diets contain less than 20 percent of caloric intake as fat (38). Women before the menopause have appreciably less atherosclerosis (39) than do men even though they presumably have much the same diet.

As yet the data relating to diet and atherosclerosis are not conclusive enough to warrant a specific program for attempting to change diet patterns of the general public. However, for individual patients with coronary artery disease, physicians are increasingly tending to prescribe diets low in total calories and relatively low in animal fat content. The usual range of cholesterol intake in humans apparently does not affect appreciably the serum cholesterol level (40, 41). Animal fat, such as lard, produces a significant rise in human serum

cholesterol whereas corn oil substituted at the same caloric level results in a fall in serum cholesterol (42). The differing effects on serum cholesterol of animal fats and vegetable fats are being studied further (42, 43).

Physicians are finding that good nutrition services in the community are becoming as much of a need as are adequate dietary services within the hospital. Health departments can provide such services in the community through nutritionists and public health nurses trained in diet interpretation.

### *Hypertension*

The etiology of hypertension is still unknown although many factors have been implicated in a complex interrelationship of possible causes. Some of these are the sodium ion, adrenal and pituitary hormones, neurogenic factors, and renal pressor mechanisms involving renin and other pressor factors (44, 45). Observations have been made of a frequent association of obesity and hypertension (46). While no causal relationship is claimed, it is accepted clinical practice to advise weight reduction for obese hypertensive patients (45). A favorable effect of such weight reduction on the elevated blood pressure has been demonstrated, and this is not an artifact induced by change of girth of the arm (47). Obese individuals with labile high blood pressure have a greater probability of later developing persistent hypertension than do persons who are not overweight (48).

It seems that obesity control should be part of the basic teaching of good nutrition habits early in life and profitably could begin in the elementary schools. Considerable experience has accumulated on techniques for weight reduction of obese individuals, but maintaining the achieved reduced weight level is probably the most difficult prescription to follow in all medical practice (49, 50). The physician interested in nutritional guidance for obesity control can obtain nutrition consultation services through his State and local departments of health.

### **Secondary Prevention**

Cardiovascular diseases will likely be with us for some time to come, so we should learn

to live with them with a minimum of discomfort and disability. The continuing counsel, supervision, or treatment by a well-informed physician is the only measure known for delaying the course of the disease and preventing unnecessary complications. Both emotional and physical disability can be prevented or postponed in many ways.

Attitudes of employers, of family members, and of close associates influence the reactions of the person with heart disease toward his condition. Thus, members of the community can help reflect the increasing optimism of the medical outlook for cardiovascular disease. Fortunately, publicity and educational information regarding heart disease have, in general, avoided the fear approach; this is a sound policy to continue.

The prevention of recurrences of rheumatic fever has already been discussed. Measures for preventing the progression of congestive heart failure and for preventing sequelae of cerebral vascular disease are other community services that will aid physicians and patients alike. The common complications and disability from peripheral vascular disease also present a challenge, but present knowledge of preventive measures is limited. Rehabilitation is especially indicated for these conditions.

### *Congestive Heart Failure*

A cursory survey of the cardiac patients in any general hospital will reveal some who are repeated visitors because of recurrent episodes of congestive heart failure. Gold (51a) found that 20 percent of congestive failure patients in a hospital had multiple admissions for the same reason. These are not as a rule the intractable patients about whom much is written but who comprise only a fraction of this group. Most of these patients have merely lapsed from an initially adequate regimen of digitalis, sodium restriction, and diuretics. Since the symptoms of congestive failure are insidious in development, the patient may be gradually accumulating edema without distress over a period of weeks before the acute episode of failure suddenly develops. This type of progression can ordinarily be prevented.

A patient who has recovered from one epi-

sode of cardiac failure can often be maintained in compensation for several years on a suitable regimen of digitalis, sodium restriction, mercurials as needed, and moderate physical activities (52). The routine is less complicated than that required for regulating a diabetic on diet and insulin. Diabetic coma is regarded as an unforgivable lapse of medical management, while acute congestive failure is shrugged off as inevitable in an "uncooperative" patient. Leiter (51b) found that one of the main reasons for poor results even in the hands of experienced physicians was incorrect diet. The physician who takes the time to educate his patient has little difficulty in maintaining the patient free of decompensation. The intricacies of the low sodium diet require that the patient learn to select foods and beverages of low sodium content and to avoid products containing sodium such as seltzer tonics and most laxatives.

Special classes (53) by dietitians, nutritionists, or public health nurses have been organized to give patients practical information regarding the low sodium diet. Patients referred to such classes by their physicians have benefited both in the exchange of information on ways to make the diet appetizing and also in the mutual feeling of support which comes from knowing that others face the same problems.

Public health nurses already are giving mercurials or diet instruction on request of physicians to a number of congestive heart failure patients who are homebound. This type of service could well be extended. Since more than half (54) of the individuals with organic heart disease may develop congestive heart failure, a program that assures optimum long-term treatment would return dividends in economic savings and in the prevention of unnecessary disability.

#### *Cerebral Vascular Lesions*

It is estimated that more than 1.8 million persons in the United States are disabled by cerebral vascular lesions (55). The majority of these are elderly individuals who have suffered a cerebral thrombosis with resulting hemiplegia. A small proportion of the disabilities are the result of cerebral embolism following rheumatic heart disease with auricular fibrillation, or of an embolus developing from a mural

thrombus after a myocardial infarction. Other uncommon disorders may also result in hemiplegia. Very few persons with intracerebral hemorrhage survive; therefore, thrombosis or embolism is usually the underlying factor in surviving hemiplegics.

Long-term anticoagulant therapy has been effective in reducing recurrences of thromboembolism in rheumatic heart disease with auricular fibrillation and a history of previous embolism (56). Studies of the use of long-term anticoagulant therapy for persons who have had cerebral thrombosis are in progress, and there is some indication that basilar artery thrombosis may be prevented by anticoagulants when administered during early stages of basilar artery insufficiency (57). Adequate laboratory facilities must be available in the community to provide reliable prothrombin determinations for physicians who wish to use the effective but potentially dangerous drugs such as dicumarol, tromexan, or similar anticoagulants.

The prevention of unnecessary disability in hemiplegics is a complex problem that requires many community health services. These patients may live for several years with alert minds trapped in dysfunctioning bodies. The speech handicaps of aphasics are particularly difficult since the patients may understand everything spoken to them but are unable to express their comprehension in words. Speech therapists are scarce in the average community. However, interested school teachers could use the instruction material (58, 59) that is available for teaching aphasics and contribute invaluable help in this aspect of the problem.

The physical therapist is the major contributor toward the physical reeducation of the hemiplegic. Destroyed function cannot be restored, but in many instances enough function remains in unaffected muscles to allow retraining for performance of basic activities. The physiatrist should be called in soon after the onset of illness to outline the physical therapy required. Rehabilitation centers that are being developed in many States will help meet the needs of hemiplegic patients; however, most communities must depend on their own resources.

### *Peripheral Vascular Disease*

The extent of disability and economic loss from peripheral vascular disease is not known, but estimates indicate it is considerable. Long-suffering patients with gangrene of the toes or indolent ulcers are commonly seen in hospital wards. Too often a series of amputations of increasingly serious magnitude follow in rapid succession. Arteriosclerotic peripheral vascular disease, varicose veins, thrombophlebitis, phlebothrombosis, thromboangiitis obliterans, Raynaud's disease, frostbite, and immersion foot are some of the more common of the peripheral vascular disease problems.

Early recognition of the disease and medical supervision are important in preventing complications in these patients. Meticulous regulation of diabetes is of great importance as is avoidance of mechanical, thermal, or chemical trauma to the extremities (60). Prevention and adequate treatment of bacterial and fungal infections, regular foot hygiene, and abstinence from smoking are other measures of general value. Instruction of diabetics in daily foot care is becoming more effective as physicians realize the importance of preventive measures. Public health nurses are also contributing further to this education through the increasing number of diabetic patients physicians are requesting them to see. The potential scope for such educational activities is seen from the fact that 20,300 public health nursing visits were made to diabetics in upstate New York during 1954 (61).

Educational materials on foot care used for diabetics should be equally useful for patients with other peripheral vascular diseases. The use of preventive measures of this type as found in standard texts (60) is a practical starting place in preventing the progression of disability from peripheral vascular disease.

#### **Community Research**

The research laboratory is traditionally expected to discover the etiology of diseases and develop appropriate therapeutic measures. However, it is well known that epidemiological studies provided knowledge for effective control of several important diseases long before the etiological factors were identified. In-

cluded are pellagra, endemic goiter, scurvy, dental caries, and retrolental fibroplasia. Epidemiological studies have demonstrated the relationship of group A beta hemolytic streptococcal infections to the subsequent development of rheumatic fever (62); the same is true of the effect of rubella on congenital heart disease during the first trimester of pregnancy. Although epidemiological studies of coronary artery disease and of hypertension are now gaining more attention, further studies are needed to determine additional factors associated with their prevention.

Elaborate research studies are out of the question for many communities, but modest field studies are feasible in most communities, especially those with a good health department. Here are some examples of problems needing further study by community groups. It has been a clinical impression that farmers, lumberjacks, and manual laborers have less coronary artery disease than do city dwellers (63). It has been suggested in studies by Morris and associates (64) that occupational groups who perform heavy physical work have lesser amounts of severe coronary disease than do sedentary groups. Other factors incriminated without adequate confirmation are diets that are high in total calories or high in total fat (34) or cholesterol foods such as milk and eggs (65), cigarette smoking (66), and the stress of modern living (67).

Carefully designed studies are needed to test and confirm these theories, and such studies will have to be done at the community level. Industries with good medical departments can contribute valuable studies which attempt to relate occupational factors to coronary artery disease and hypertension. The work of Crain and associates (68) on the incidence and prognosis of myocardial infarction among employees lends optimism to the outlook for continued employability of persons who develop coronary artery disease. The economic loss to the community resulting from heart disease is of practical importance but has not been thoroughly studied. The incidence and prognosis of heart disease in the general population in different parts of the country are still unknown for both coronary and hypertensive vascular disease.

A comprehensive study of major factors related to coronary artery disease and hypertensive vascular disease is now in progress at the Cardiovascular Health Center (69, 70) in Albany, N. Y., but less elaborate studies in the community could give valuable information on some aspects of these problems. A health officer can interest private physicians in the many facets of the heart disease problem by developing a study that will provide new knowledge on the local heart disease problem. Many resources are available to help plan and carry out local studies. These include the universities, the State departments of health, the American Heart Association, and the Public Health Service.

### Education and Information

The extent of knowledge about heart disease directly influences the effectiveness of community efforts directed toward the problem. This level of knowledge includes that of practicing physicians, nurses, social workers, vocational counselors, employers, and patients and their families. Professionals, nonprofessionals, and members of the general public are concerned with some aspects of the problem, even if it is merely from personal or family experiences.

The health officer should become involved in health educational activities to the full extent of his ability and resources. Postgraduate education for physicians is a specialized form of health education and is usually best carried on through the regular channels of the medical society, medical schools, and hospitals. The health officer and local heart association, however, can often bring in special speakers or teaching aids such as films, tape recordings, or other materials that are available and continually being developed by medical schools, the American Heart Association, the Public Health Service, and other organizations. The New York State Department of Health, like several other State health departments, maintains a library of health films that are available on loan to professional and nonprofessional groups.

Information on heart disease is essential for public health nurses, nutritionists, physical therapists, medical social workers, or any other

individuals who might be brought into heart program activities. The quality of service can be only as good as the caliber of personnel and level of their knowledge concerning their possible contributions to the problem.

The judicious use of educational information for the public can be helpful when specific program activities are being developed. It would be wise to have a medical advisory committee determine the general approach to be used in acquainting the public with health information since unsuitable materials may only stimulate fear of heart disease rather than constructive attitudes or action. People do not automatically accept health programs merely from the presentation of scientific evidence. Attitudes, beliefs, values, traditions, and many other factors influence their willingness to accept or undertake actions related to their health (71, 72). The health educator who understands the problems related to heart disease can be very helpful in developing program activities in the community. Through various processes of communication, medical knowledge can be transformed into public understanding and acceptance of specific health activities, for example, prevention of rheumatic fever, early detection of heart disease, and rehabilitation.

The local health department and local branch of the American Heart Association will do the best possible job of health education if they combine their resources in personnel and mass media and conduct a joint program of health education on a continuing basis.

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## Change in Name of Institute

The National Microbiological Institute, one of the seven National Institutes of Health, Public Health Service, was redesignated the National Institute of Allergy and Infectious Diseases early in February 1956. Dr. Victor H. Haas is director of the institute.

The renaming of the institute reflects the importance of new research on allergies and the close relationship of such research with the study of infectious diseases. Investigations of allergy are closely allied to the science of immunology, which is also fundamental to investigation of the infectious and parasitic diseases. Recent estimates indicate that approximately 16 million persons in the United States suffer from some form of allergy and that some manifestation of allergy is experienced by at least 50 percent of all people at some time in their lives.

The institute will support long-term basic studies in these fields through grants to research scientists in universities and medical schools. A National Advisory Allergy and Infectious Diseases Council has been established to make recommendations to the Surgeon General of the Public Health Service regarding the new grant activities of the institute. The council held its first meeting March 7-8, 1956, at Bethesda, Md.

Members of the council are leaders in science, education, and public affairs. Except for two vacancies to be filled, all the members have been appointed. They are:

Drs. René J. Dubos, member of the Rockefeller Institute for Medical Research, New York; Gail M. Dack, director, Food Research Institute, University of Chicago; Edwin B. Fred, president, University of Wisconsin; Charles E. Smith, dean, School of Public Health, University of California at Berkeley; and H. O. Halvorson, head, department of bacteriology, University of Illinois.

Byron H. Larabee, president, Firestone Plantations Company, Akron, Ohio; David C. Crockett, associate director, Massachusetts General Hospital, Boston; Mrs. Rollin Brown, of Los Angeles, president, National Congress of Parents and Teachers; and John Abbink, of New York, president, American Foundation for Tropical Medicine.